

ABSTRACT

Disclosed is a medically implantable integrated biocompatible power module incorporating a power source (e.g., battery), a power management circuit (PMC), a magnetically inductive coupling system (MICS) for remote communication and/or inductive charging and a homing device for locating the implanted inductive charging coil. Three configurations are disclosed, each generally suitable for a specified range of energy capacities. The implantable power module (IPM) allows for improved design flexibility for medical devices since the power source may be located remotely and be recharged safely *in situ*. Special safety aspects may be incorporated, including endothermic phase change heat absorption material (HAM), emergency energy disconnect and emergency energy drain circuits. Communication (one or two way) may be carried out using the inductive charging link, a separate inductive pathway, or other pathway such as RF or via light waves. Homing devices and other means for precisely locating the IPM and/or MICS are disclosed.